Letters to the Editor

The Board of Editors will not hold itself responsible for opinions expressed in the letters published in this section. The notes containing reports of new work communicated for this section should not contain many figures and should not exceed 500 words in length. The contributions must reach the Assistant Editor not later than the 15th of the second month preceding that of the issue in which the letter is to appear. No proof will be sent to the authors.

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SPECTRA OF DIMETHOXYBENZENES. PART I—META DIMETHOXYBENZENE

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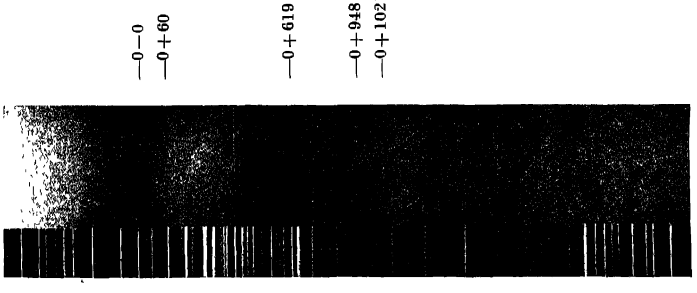
Dimethoxybenzenes have the constitution $C_6H_4(OCH_3)_2$ with the radical OCH_3 substituting the H atoms in the three isomeric positions. The present study is on the meta substituted compound. A 100 cms absorption column is used for photographing the spectrum under different pressure conditions of the vapour. The spectrum is reproduced in figure 1. Measurements on 15 bands are presented in the table along with their probable assignments.



Spectrum of *m*-dimethoxybebzone.

Three distinct regions of absorption are found. In each region the band is broad with a fairly sharp edge towards the violet. The 0,0 band is located at ν 36117 and is accompanied by a structure consisting of a number of very close

bands. On the violet side is a band of medium intensity at a wavenumber separation of 60 units. It does not conform to the usual difference frequency found in these spectra. If this frequency is genuine, it is expected to represent the

Wavenumber	Int	Assignment	Wavenumber	Int	Assignment
36020	m	0–2 41	36781	w	
059	vw		793	mw	0+619+60
076	m	0–41	891	mw	
103	m		945	mw	
117	st	0, 0	37027	mw	0+948−41
177	m	0+60	065	mw	0+948
736	mst	0+619	138	w	0+1021
752	mw				

difference between a smaller ground state and a larger upper state frequency—a feature found in paracresol and phenetole. On the long wavelength side of the 0,0, band a band at an interval of 41cm^{-1} corresponds to the usual $v-v$ transition. This recurs in combination with other frequencies. Prominent bands on the violet side led to three distinct frequencies 619, 948 and 1021 only 948 is obviously a totally symmetric carbon vibration. 1021 can either be another carbon vibration or more probably a O-CH_3 vibration.

Study of the spectra of the other isomers is in progress.